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CORRESPONDENCE

The revised classification of non-convulsive status epilepticus

Dear Sir

We are surprised that our categorization of non-convulsive status epilepticus (NCS), published in *Seizure* 1993[1], reappeared in *Seizure* 1994 as a novel proposal by Staufenberg and Brown[2]. The revised classification was also proposed by us at the 20th International Congress of Epilepsy in Oslo, July 1993[3].

We 'attempted to classify NCS according to the ictal EEG features and the syndrome diagnoses' (Table 1). Staufenberg and Brown 1 year later 'developed a revised version of classification of NCS centred around electroencephalographic data and the epileptic syndromes' (Table 2).

Table 1: Proposed revision of the classification of non-convulsive status epilepticus (NCS)[1]

I	NCS in generalized epilepsy syndromes
II	NCS in localization-related epilepsy
	(a) with localized EEG features
	(b) with generalized EEG features
	(c) with transitional EEG features*
III	Undetermined form of NCS†

* Status EEG alternates between localized and generalized ictal activity.

† Epilepsy syndrome cannot be determined and status EEG shows a generalized pattern.

Table 2: Revised version for the classification of NCSE[2]

I	Generalized epileptic syndromes:
	a. with no evidence of lateralization interictally or in NCSE.
	b. with some evidence of lateralization in NCSE only
II	Localization-related epileptic syndromes:
	a. with evidence of lateralization/localized emphasis when in NCSE
	b. with evidence of generalized EEG patterns when in status
	c. transient forms: same individual show generalized and lateralized NCSE discharge pattern in different EEGs
III	Unclassifiable epilepsy syndrome

This double-reporting may have been coincidental, since the new NCS classification is a consequence of frequently-occurring clinical problems in connection with the revised classification of epilepsies and epileptic syndromes of the International League against Epilepsy of 1989[4]. It is, however, our considered opinion that references should be updated to include other closely related papers, particularly in a paper submitted to the same journal and especially when one of the authors is a member of this very journal's editorial board.

In particular, in patients with learning difficulties, there may be an overlap between the symptomatic generalized epilepsy syndromes and the localization-related epilepsies with secondarily generalized seizures. Age-related epilepsy encephalopathies may be superimposed on most forms of pathological brain conditions.

The division of 'NCS in localization-related epilepsy' in subtypes with (a) localized, (b) generalized, and (c) transitional EEG features seems particularly to be useful in patients with immature or developmentally retarded brains. The fact that Staufenberg and Brown also have found it useful to divide 'NCS in generalized epilepsies' into cases with and without lateralizing features in their status EEG, further reflects the difficulties in administering the current epilepsy syndrome classification[4] in this category of patients who often have multiple neurological signs and symptoms.

We are not surprised that the present classification of NCS, previously applied to adult mentally retarded patients[1] is also found to be valid in a group of children and adolescents with learning difficulties[2]. However, there seems to be some unexplained inconsistencies between the NCS categories and the syndrome diagnoses in the series of Staufenberg and Brown. Patient 12 was considered to have the Lennox–Gastaut syndrome (a generalized cryptogenic or symptomatic epilepsy syn-

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drome[4]), but was still considered to have NCS 'with a generalized EEG pattern in localization-related epilepsy syndromes' (NCS class IIb). Patient 14 was labelled as belonging to NCS class III (unclassifiable epilepsy syndrome), but the epilepsy syndrome was described as generalized in Table 5 of this paper[2].

The integration of patients with severe intellectual deficits into the general epilepsy service highlights the particular problems encountered in the management of this group. The revised classification of NCS[1] is an example where experience derived from particular problems accumulated or aggravated in these patients, may contribute to current developments in epileptology as such.

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Reply to Letter from Dr Brodtkorb

We should like to take the opportunity to respond to Dr Brodtkorb's letter taking each point in turn.

1. Concerning our paper on non-convulsive status epilepticus[1] Dr Brodtkorb rightly points to his group's own paper[2] which appeared before the submission of our own. Our findings were actually first presented at the 'Epilepsy Europe Conference' in Glasgow, September 1992, in *Seizure*[3]—we apologize for the unintentional and, as it turns out, misleading omission of this reference in our 1994 paper.

2. Dr Brodtkorb 'is not surprised' at the validity across the age ranges of classification covered by the papers—we reported a mean age of 15 years and calculated Dr Brodtkorb's group of patients to be on average 36 years old. However Dr Brodtkorb may agree with our view that the stability of electrophysiological phenotypic discrepancies is indeed remarkable as both highly selective sample populations contain individuals with developmental and acquired brain neurological disorders.

Individuals with these neuropsychiatric disorders are subject to a wide range of qualitative and/or quantitative changes of their emotional, physical, neuropsychiatric and psychological and conduct-related modes of this presentation. This could reasonably be expected to apply to the electroclinical phenotype of these individuals as well but this is not the case. This would not have been readily predicted by us contrary to Dr Brodtkorb's suggestion.

The two studies use comparable retrospective methodologies and Dr Brodtkorb's group comes to similar conclusions as we did in 1992 using an independent population sample from ours. We can only agree with Dr Brodtkorb on the requirement to explore the issue further and refer to our call for the prospective study of cohorts of individuals with non-convulsive status epilepticus so as to widen the debate on the topic[3]. The aim must be to examine the validity of the small, uncontrolled findings, with a view for a revision of the nosologically restrictive position of non-convulsive status epilepticus in the Revised Classification of International League against Epilepsy[4]. In this context we should like to point to the potential for joint research efforts by researchers working in the field; this should help reinforce the case we and Dr Brodtkorb think the ILAE must address.

3. As regards 'some unexplained inconsistencies' mentioned by Dr Brodtkorb in patients 14 and 12, respectively, two separate points require classification. Table 5 is designed to highlight the dilemma of an epileptologist in attempting to integrate the electrophysiological and the clinical picture in epileptic syndromes. Whilst seizures other than NCSE remain the domain of clinical diagnosis, our proposal is to solely base the diagnosis of NCSE on neurophysiological patterns of discharge.

The apparent inconsistency in Case 14 de-